

# Notice of Allowability

Application No.

09/980,370

Examiner

Robert B. Mondesi

Applicant(s)

COLLYER ET AL.

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1652

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed June 6, 2007.
2. ☒ The allowed claim(s) is/are 1-11, 18-19 and 21-25.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Shantanu Basu on July 27, 2007.

The application has been amended as follows:

**Claim 6 (Currently Amended):** A method according to any one of Claims 1 to 4 wherein the HA2-containing molecule is a gingipain, an hagA gene product or a TonB-dependent protein ~~or a homologue thereof~~.

**Claim 9 (Currently Amended):** The method according to claim 1 wherein said HA2 domain comprises:

- (i) ~~an~~ the amino acid sequence ~~substantially~~ encoded by the nucleotide sequence set forth in SEQ ID NO:5 or a nucleotide sequence having at least ~~about 90%~~ 95% identity thereto or capable of hybridizing thereto under high stringency conditions of 0.1xSSC, and 0.1% w/v SDS at 65 °C; and/or
- (ii) ~~an~~ the amino acid sequence ~~substantially~~ as set forth in SEQ ID NO:6 or an amino acid sequence having at least ~~about 90%~~ 95% similarity thereto.

**Claim 11 (Currently Amended):** A method for the treatment of *P. gingivalis* infection or infection by a related microorganism in a mammal, said method comprising administering to said mammal an effective amount of an agent for a time and under conditions sufficient to antagonize the interaction between a *P. gingivalis*-derived HA2-

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containing molecule comprising the amino acid sequence ALNPDNYLISKDVTG (SEQ ID NO:1) or ALNPDNYLISKDVTGATKVKY (SEQ ID NO:8) or an amino acid sequence having at least 90% 95% similarity to SEQ ID NO:1 or SEQ ID NO:8 ~~or at least about 20% identity after optimum~~ after optimal alignment with the same sequence or ~~an~~ the amino acid sequence encoded by the nucleotide sequence ~~of~~ of SEQ ID NO:7 or a nucleotide sequence having at least 90% 95% identity thereto or a nucleotide sequence capable of hybridizing thereto under high stringency conditions of 0.1xSSC, and 0.1% w/v SDS at 65 °C and an HA2-binding motif comprising ~~and including~~ propionic acid groups or anionic or salt forms thereof, wherein the agent antagonizes the interaction between the *P. gingivalis*-derived HA2-containing molecule and the HA2-binding motif by specifically binding to one or both of (a) the HA2 domain of the *P. gingivalis*-derived molecule, and (b) the HA2-binding motif.

**Claim 18** (Currently Amended): A method according to claim 5 wherein the HA2-containing molecule is a gingipain, an hagA gene product or a TonB-dependent protein ~~such as but not limited to Tla protein or a homologue thereof.~~

**Claim 23** (Currently Amended): A method according to claim 9, wherein the molecule derived from said microorganism and having an HA2 domain and an HA2-binding moiety on a porphyrin-containing molecule is hemoglobin or a ~~precursor form thereof or part thereof or heme.~~

**Claim 25** (Currently Amended): A method according to claim 24, wherein the porphyrin-containing molecule is hemoglobin or a ~~precursor form thereof or part thereof~~ or heme.

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**Conclusion**

**Claims 1-11, 18-19 and 21-25** are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert B. Mondesi whose telephone number is 571-272-0956. The examiner can normally be reached on 9am-5pm, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 571-272-0928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Robert B Mondesi  
Examiner  
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*Robert B. Mondesi*  
7-27-07